

# **EXHIBIT 13**

**U.S. Patent No. 7,130,625**

Claim 16	Identification: AT&T Cellular with WiFi Calling
<p>16[pre] A universal wireless access gateway comprising:</p>	<p>The AT&amp;T system includes a universal wireless access gateway.</p> <p><b>Figure 44: HO Architecture Wi-Fi &lt;-&gt; LTE</b></p> <p><u>Source:</u> VoWiFi Service Description, Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description.</p>

## Talk and text in more places

Wi-Fi Calling lets you talk and text from indoor locations where it's hard even for a strong cellular signal to reach. Wi-Fi Calling can be used in the Domestic Coverage Area (U.S., Puerto Rico, and U.S. Virgin Islands) and from most international countries.

[TTY limitations for 911 calls](#)

Set Up Wi-Fi Calling →

Source: <https://www.att.com/features/wifi-calling/>

## AT&T Wi-Fi Calling LAN and VPN configuration

*AT&T Wi-Fi Calling LAN/VPN configurations for routers and modems.*

### DETAILED INFO

#### LAN/VPN router configurations required to communicate with the AT&T network

To use AT&T Wi-Fi Calling, your device must be able to communicate with the AT&T network. In some cases in order to communicate effectively you may need to change your router settings. If you have a simple router configuration that has not been customized, you may not have to make any changes to your settings.

If the router's configuration has been updated or you're using a firewall you may have to update the router setting to support AT&T Wi-Fi Calling.

#### *Additional router information*

##### **LAN configurations to support AT&T Wi-Fi Calling**

For assistance in updating the configurations below refer to the router manufacturer's website or contact your Internet Service Provider.

##### **Internet Protocol Security (IPSec) must be allowed**

Internet Protocol Security is a method of encrypting traffic sent through the Internet. It is used to provide a secure voice and data communication path. Some routers permit IPSec messages to be blocked. AT&T Wi-Fi Calling requires IPSec pass-through to be allowed.

##### **Data ports must be open**

Routers can be set to block traffic using certain **ports**. Ports 500, 4500, and 143 as shown in the table below are used to communicate to the AT&T network and must be open. Port blocking is sometimes implemented in the form of access lists.

##### **Data ports**

Port	TCP or UDP	Service or protocol name	RFC	Service name
500	UDP	Wi-Fi Calling	5996	IKEv2
4500	UDP	Wi-Fi Calling	5996	IKEv2
143	TCP	Internet Message Access Protocol (IMAP)	3501	imap

##### **Maximum Transmission Unit (MTU)**

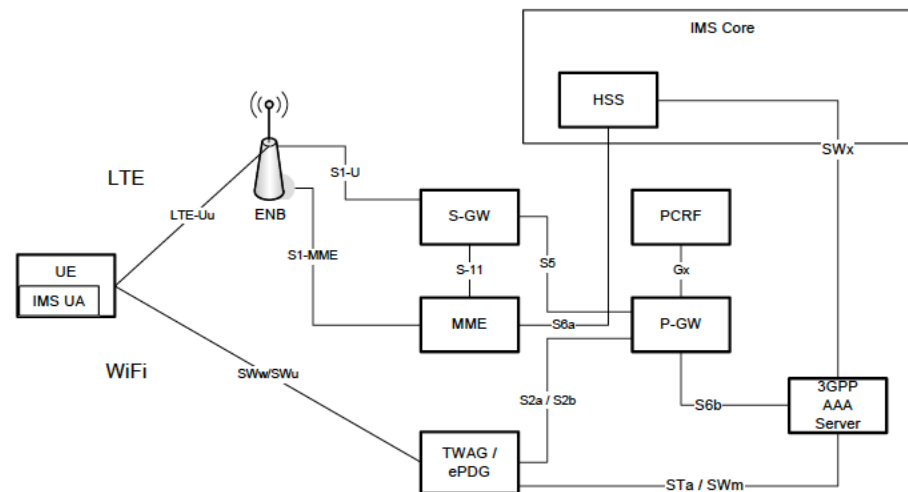
The MTU represents the maximum packet size that can be transmitted. Wi-Fi Calling performs best if the parameter is set to 1500.

Source: <https://www.att.com/support/article/wireless/KM1114459?gsi=FUwZG6c>

*See also 16[a]-16[c] below.*

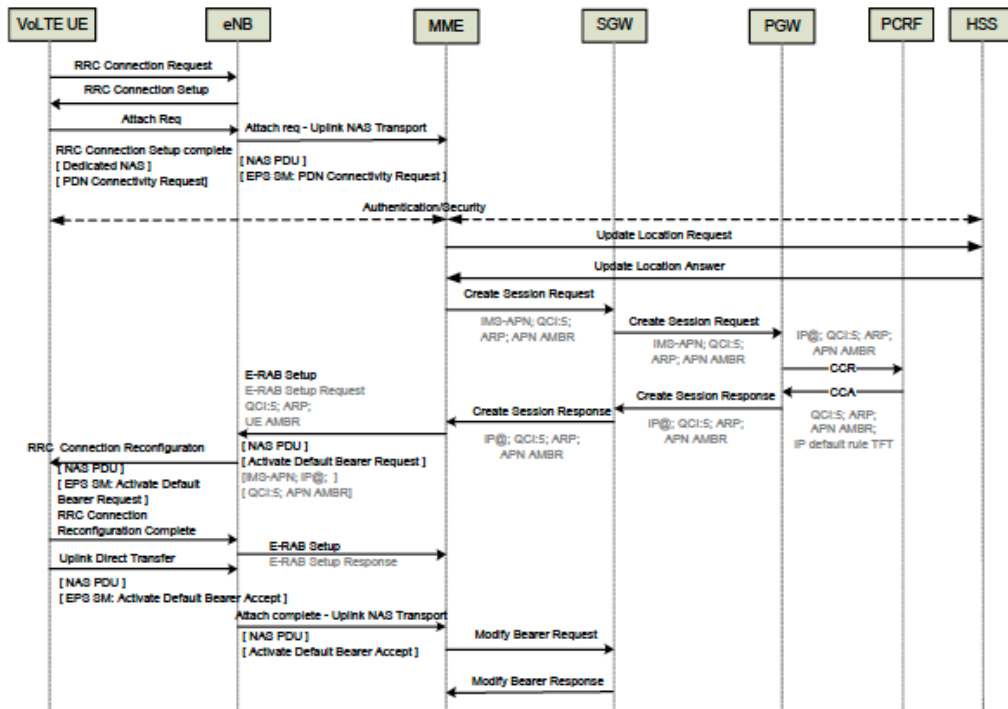
16[a] a shared component;

The AT&T system includes a shared component, for example, at least the HSS.



**Figure 44: HO Architecture Wi-Fi <-> LTE**

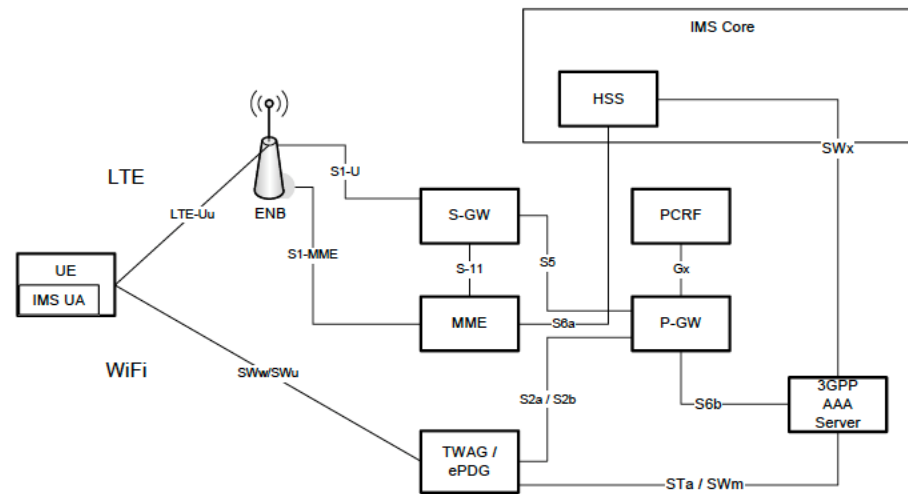
Source: VoWiFi Service Description, Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description.



Source: VoLTE Service Description and Implementation Guidelines Version 2.0 07 October 2014

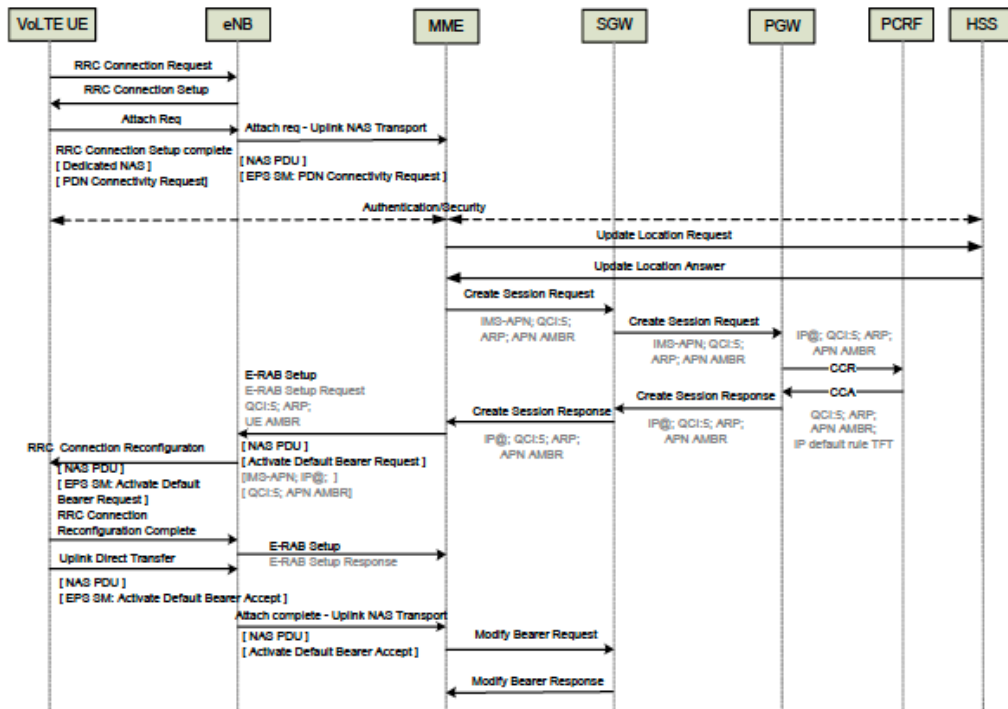
16[b] a first environment access module that communicates with the shared component to enable access to a first network using a first wireless access technology; and

The AT&T system includes a first environment access module, for example, at least the MME, that communicates with the shared component to enable access to a first network using a first wireless access technology (such as cellular access).



**Figure 44: HO Architecture Wi-Fi <-> LTE**

Source: VoWiFi Service Description, Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description.

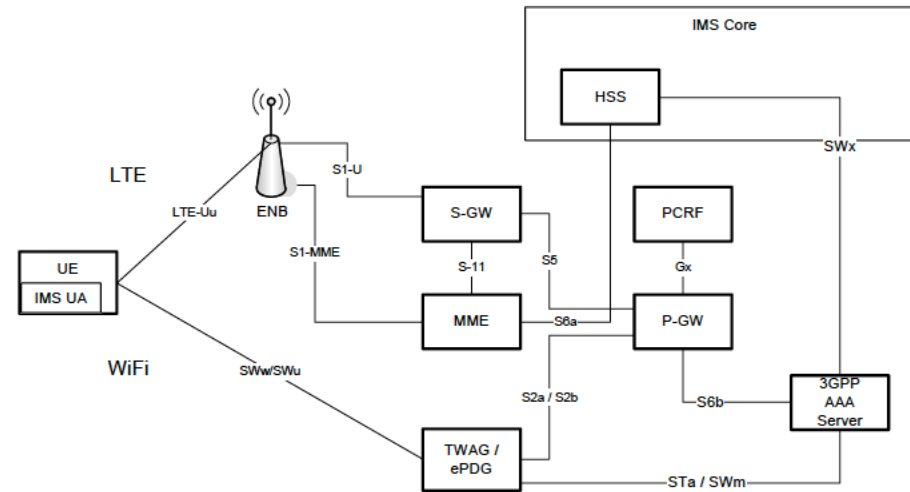


Source: VoLTE Service Description and Implementation Guidelines Version 2.0 07 October 2014



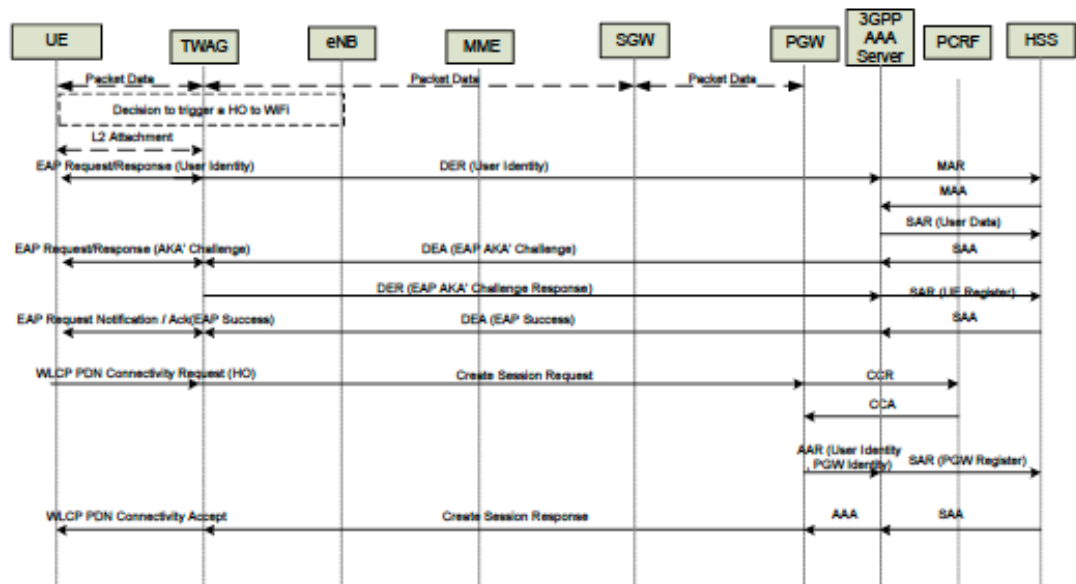
16[c] a second environment access module that communicates with the shared component to enable access to a second network using a second wireless access technology that differs from the first wireless access technology.

The AT&T system includes a second environment access module, for example, at least the 3GPP AAA Server, that communicates with the shared component to enable access to a second network using a second wireless access technology (such as Wi-Fi) that differs from the first wireless access technology (such as cellular).



**Figure 44: HO Architecture Wi-Fi <-> LTE**

Source: VoWiFi Service Description, Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description.



### 6.3.3 Detailed Description

The UE detects the Wi-Fi network and determines to perform a handover from LTE to Wi-Fi.

Source: VoWiFi Service Description \_Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description